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AND
PHOTOGRAPHIC
ENLARGER
EDITED BY J. HAY TAYLOR
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NOTICES.

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NOTES.

A Photographic Prize.—A sufficient amount in Consols to produce £5 a year, has been specially invested by Mr. A. L. Henderson, which at the discretion of the London and Provincial Photographic Society will be awarded for the best photographic paper read during each year, preference being given to the chemical department of photography.

◆ ◆ ◆

Local History.—The London School Board is arranging a scheme for teaching the local history of the various London boroughs to boys and girls in the senior classes. To this end lantern lectures are to be given in the local town halls. These lectures are to present in a clear and simple manner the local history of each district, showing how the parish grew into a vestry and the vestry into a borough. We understand that Mr. Ratcliffe, formerly editor of the *Echo*, has been entrusted with the execution of this scheme.

◆ ◆ ◆

An Enthusiastic Schoolmaster. — Mr. Clark, the head master of the Bath Road Board Schools, has prepared about 2,000 lantern slides pertaining to history, zoology, and physical geography, the results of about 20 years' collection of material taken mostly from old periodicals and books obtained from old bookstalls.

◆ ◆ ◆

Automatic Photoscope Syndicate, Ltd.—About a fortnight ago application was made at the Manchester Chancery Court for a winding-up order against the above-named company. No one appeared to oppose, so the Vice-Chancellor made the usual order as to winding up, and as to costs.

◆ ◆ ◆

Acetylene in Omnibuses.—Arrangements are being made to provide many of the London omnibuses with acetylene light. Something in this direction has long been required, for 'bus illumination has been quite as bad as the illumination of some of the railway carriages in the South of London.

◆ ◆ ◆

Voters supplied with Spectacles.—About 250,000 pairs of glasses will be purchased by the State committee in Maryland for use in polling booths. Politicians have found that both in the city and country districts a large number of voters of the poorer classes can read sufficiently well to ballot, but their sight is so defective that in the dimly lighted booths they are unable to read the long list of contestants on the ballot. Capable men will be provided at every polling place to adjust the glasses for the voters.

◆ ◆ ◆

"Trilby" Limes.—In our last issue we spoke of the firm of Messrs. Assender & Co., Limited, having been sold by the liquidator to Messrs. Green & Co. This new firm, we understand, continue to make the "Trilby" Diamond Limes. We have since learned that Messrs. Petrus, Barghoorn & Co., of 158, Fenchurch Street, E.C., have engaged Mr. W. H. Assender (founder and late managing director of William Henry Assender & Co., Limited) as manager, and that they are manufacturing and placing upon the market limes under the style of Assender's Excelsior Trilby Lime Cylinders. This latter firm have forwarded us a couple of dozen limes. Each lime is wrapped in tin foil.

◆ ◆ ◆

The Dundee International Photographic Exhibition.—Dundee has long held a reputation as an art buying centre, so under the auspices of the Dundee and East of Scotland Photographic Association, an International Photographic Exhibition is to be held at the Victoria Art Galleries there for four weeks, commencing on January 31st next. A novelty is to be tried in the shape of a Photographic Art Union for the purpose of inducing sales at the exhibition. Prospectuses will be sent to all interested post free on application to Mr. Archibald Campbell, hon. exhibition secretary, 39, High Street, Dundee. Entries close on January 11th.

◆ ◆ ◆

Kodak, Limited.—Arrangements have been made whereby the headquarters of Kodak, Limited, will be America instead of England; this step being taken owing to troubles with the income tax assessors of this country. Certain other manufacturing businesses are to be amalgamated or taken over, and the new capital is to be £7,000,000. At the headquarters in this country in Clerkenwell Road extensive additions are being made, the large building lately occupied as the headquarters of Salmon & Gluckstein, and situated next to Kodak, Limited, having been acquired by the latter firm.

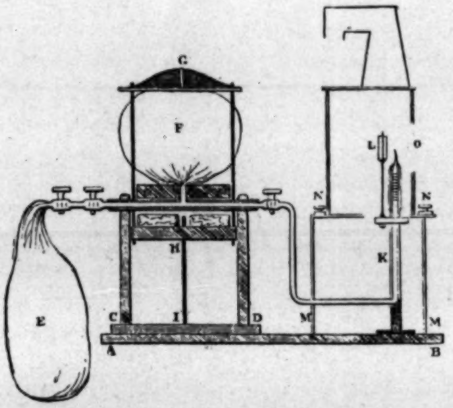
A Scientific Lantern of Fifty Years Ago.

UPWARDS of fifty years ago a somewhat peculiar lantern was employed by Mr. Chas. Woodward, F.R.S., during lecture demonstrations with the polariscope before several scientific societies, including the Islington Literary and Scientific Society, of which Mr. Woodward was the president. With this he gave lectures before large audiences, and we learn that the apparatus proved very effective.

We are enabled to give a sketch of the lantern, together with its mode of lighting, and to present-day workers of the lantern it will without doubt be of interest. Nowadays we have suitable appliances for adjusting the illuminant to or from the condenser, but, as will be seen in this particular lantern, the body of the lantern was adjusted and the jet left practically stationary.

The following explanation, according to the lettering, will explain the various parts :—A B is the stand upon which the various parts were attached or built up and contained what was then known as a Gurney's blow-pipe, C and D represent two upright pillars fixed to the stand and supporting the tubes leading from the reservoir E to the bladder or rubber bag F, and thence to the Hemming safety tube K—this latter consisted of a tube tightly packed throughout its length by exceedingly fine wire, which acted as a preventative to firing back. G represents a thin circular slab of wood (with strengthening piece at right angles). This was attached to the four rods connected with H, upon which weights were placed. This, sliding downwards on the guide I, served to press the contents of the bladder or rubber bag towards the jet, *viâ* K, on to the lime cylinder L, which was slowly rotated by clockwork (not shown in sketch).

The frame M M, which supports the body of the lantern, was capable of sliding backwards or forwards in a beading, so as to adjust the correct distance between the illuminant and the condenser, while the lateral movement was provided at the screws N N, which also permitted of the lantern being slightly tilted. The jet itself had a screw adjustment whereby it could be set at the proper height.



The reservoir E, of which several were kept at hand, contained the gases ready mixed and was screwed on between the two taps shown, so that one tap closed the reservoir and the other the end of the tubing to which it was attached. On squeezing the reservoir E with the taps open, F became filled, and after closing the two taps alluded to and opening that connecting with the jet, the weights on H caused the pressure board G to exert its influence in feeding the contents of F to the jet. From time to time F was filled up in like manner from E, and when this latter was empty a new one was attached. The condenser was screwed into the brass plate O.

To the present-day worker with compressed gas and automatic regulators, the above apparatus shows what care and attention were required in working an outfit of this description. Yet numerous scientific demonstrations were given with it, and we have failed to learn that any mishap occurred through its use.

Vagaries & Variations of Popular Taste in Lantern Exhibitions.— No. II.

By W. H. GOLDING.

THESE lanterns, mentioned in last issue of this Journal, were first used side by side, but afterwards combined or superposed, forming the bi-unial lantern, usually having a polished mahogany body lined with sheet metal, with a space between the body and its lining for ventilation and the escape of heated air; a very considerable improvement, both in elegance of appearance and convenience of manipulation, upon the cruder and less sightly instruments previously described. And it cannot be questioned that audiences generally like to see handsome and imposing looking apparatus, and are apt to appreciate the effects produced by their aid more highly than equally successful results if attained by less sightly and attractive means.

The bi-unial lantern naturally suggested further developments in the direction of the use of a third or even a fourth lantern, which lent themselves to the production of the elaborate effects already referred to, which require two or more pictures to be superposed in order to obtain the representation desired. By their aid windows can be

gradually illuminated,

lamps lighted and extinguished, a volcano caused to burst into eruption and again to subside into repose, and many other realistic movements brought before the spectators. The accuracy of registration required for such a purpose, so that every part of a composite picture shall fit precisely into its proper position, is difficult, if not impossible to attain without the aid of photography, whereby any number of duplicate copies of a scene can be produced, to be afterwards combined as required. Some of the effects, such as the firing of a shell in "Torpedo Warfare," shown at the late Royal Polytechnic Institution, required four or more lanterns to be in use at once, an arrangement well within the resources of that institution, at which, as well as in his public lectures and entertainments throughout the country, the triple lantern with the slides to be used in it was carried to the highest perfection by Prof. B. J. Malden, who was ably followed by Mr. Bridgman Smith and other well-known lecturers; and more recently by Mr. G. H. Snazelle, who has adopted this method of illustration in his musical entertainments with great skill and success. In fact, the capabilities of such an instrument for the purpose of illustration are almost unlimited, and in competent hands the triple lantern, which was so largely in use a very few years since, has produced, and still produces splendid results, and has met with a large share of public favour.

Nevertheless, popular taste is fickle and uncertain, and it seems to have undergone further change during the last few years, so that while as a means of illustrating scientific or descriptive lectures the use of the **optical lantern** is largely on the increase, the desire for amusement without much, if any, thought or mental effort seems to be gaining ground amongst general audiences, and something which will raise a laugh or suggest a ludicrous idea is frequently preferred even to a really high-class and elaborate pictorial effect; a state of things which cannot be denied but can only be deplored. A series of conundrums, for example, thrown upon the screen and followed, after a sufficient interval has been allowed for the exercise of ingenuity in guessing the probable solution, by the answer to the question. One of these precious and edifying productions may be quoted as an example of "how not to do it":—

Query (on one slide): "What is that which will go up a stove-pipe down, or down a stove-pipe down, but will not go up a stove-pipe up, or down a stove-pipe up?"

Answer (on another slide, inserted or brought into view when the audience have guessed at the solution to their hearts' content): "An umbrella!"

"*Ex uno disce omnes.*"

From the higher regions of elaborate and high-class pictorial effect, "O, what a fall was there, my countrymen!"

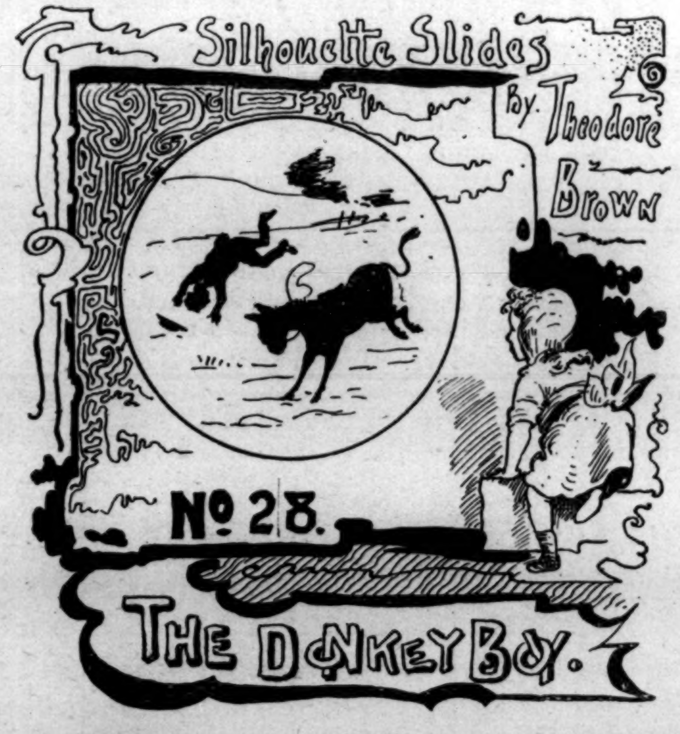
For puerilities such as these, as well as for more serious and important purposes, the single lantern, which but recently would have been regarded as inadequate to the requirements of an exhibition making any pretence to excellence, seems to be once more in favour, and neither skilful dissolving nor elaborate effects appear to be so much in demand as once they were. This may be partly due to the rapidly increasing number of amateur photographers and hunters after "snapshots," who desire to display their highly creditable artistic productions by the aid of the lantern, and who are unable or unwilling to produce pictures suitable to be shown as effects, or to provide the high-class and costly instruments and the skilful manipulation required for their successful display.

Another cause is doubtless the introduction and extensive use of lamps constructed to consume mineral oils, of the acetylene gases, and, of the most powerful of all methods of lantern illumination—the intensely brilliant electric arc; none of these lend themselves very readily to use with the dissolving apparatus or in the bi-unial or triple lantern, while the single lantern presents no such difficulty in the way of their employment. But whatever the cause may be, the fact is before us, and the popular taste must be reckoned with.

The latest development of lantern projection, the kinematograph, with its long series of moving pictures, is too costly, and requires too much previous adjustment and manipulative skill to be undertaken unless on a more extensive and permanent scale than is usually possible to the ordinary exhibitor, whose appliances must be readily placed in position, and as readily removed when no longer required; while the films are frequently of only temporary and ephemeral interest, and require to be constantly renewed.

Since a single film or band of pictures may cost several pounds, and when no longer of immediate interest may become almost valueless, a stock of such films is at once a costly and a hazardous investment. The extreme inflammability of the only material at present available for such films, and the stringent regulations under which alone the various public authorities permit their use, also militate greatly against their employment excepting in places of public amusement such as theatres and music halls, where the requisite precautions can be observed, and the necessary installation kept in use day after day, and the pictures continually presented to fresh audiences until their interest is at an end; forming perhaps a **single item** in a varied entertainment. Were it not for these and similar difficulties, which time and experience may largely overcome, the kinematographic picture, with its wonderful power of bringing before the eye objects as actually seen in motion, or processes as they pass rapidly from stage to stage from commencement to completion, should prove a most valuable means of illustration both of natural phenomena and mechanical processes, as well as of events which once past may not occur again, but "like an unsubstantial pageant faded," may "leave not a wrack behind."

Whether for instruction or for amusement, the lantern has a wide, and rapidly widening, field of usefulness still open to it; and if, while duly considering and endeavouring to meet the taste of the public from amongst whom the spectators are drawn, the caterer for their requirements will attempt to lead as well as to follow, by being careful to keep up the standard of work to the highest degree of excellence attainable, and never by any means to let it down or encourage its degradation by pandering to a depraved taste, satisfactory results will unquestionably follow, and success attend his efforts to please.



Silhouette Slides

By Theodore Brown

No 28.

THE DONKEY BOY.

THIS slide represents a boy sitting upon a donkey's back. The boy tries to urge the donkey onwards, but it is stubborn—no unusual thing!—and will not do as its rider wishes it to. But instead, it does just the reverse, and after several plungings and kickings, succeeds in throwing the rider over its head on the ground.

For the construction of this slide three glasses are employed, fitted into the ordinary wooden framework. It will hardly be necessary for me to give details for the construction of this framework. It would be needlessly taking up valuable space, and a reference to one of his own mechanical slides will show any lanternist who wishes to construct the present slide how to make the necessary framework.

The two outside glasses are fixed, and the centre one is movable in a groove provided for it in the framework. These are shown in Fig. IV.

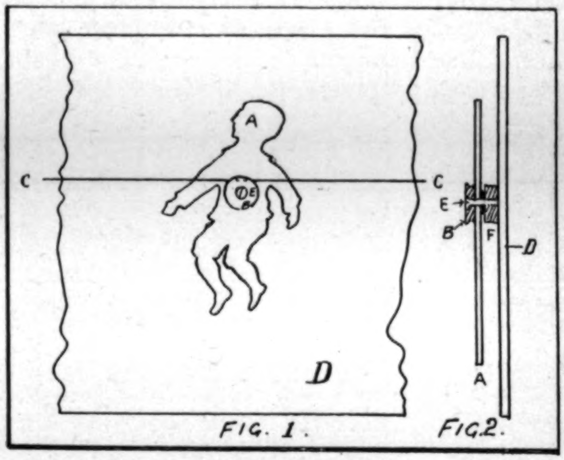


FIG. 1. FIG. 2.

The working parts of the boy are fitted up on one side of the centre movable glass, and the working parts of the donkey are fitted up on the interior surface of the fixed glass furthest away from the boy.

Referring to Fig. I., the boy A is made of thin metal in one piece, as shown. To his body is glued a small grooved wheel B. He is then pivoted to a small block F (Fig. II.), glued to the surface of the centre glass D by means of the screw E.

A thread C C (Fig. I.) is then passed round the grooved wheel B, and the ends fastened to two blocks, one at each end of the fixed glass which is nearest the boy.

It will thus be seen that if the centre sliding glass be pushed along its groove the boy will be caused to revolve or turn head over heels, by means of the stationary thread passing round the wheel glued to his body. At the same time, because he is attached to the sliding glass by means of the block F (Fig. II.), he will be carried on with the glass.

The method of fitting up the donkey will now be dealt with.

As before stated, it is fitted up on the fixed glass furthest away from the boy. In order to fully explain the relation of the donkey and the boy, let reference be made to Fig. IV. Then, if the boy is attached to the left-hand side of the centre glass B 2, the donkey will be fitted up on the interior surface of the fixed glass C 3. The blocks bearing the thread which causes the revolution of the boy would, of course, be glued to the extreme ends of the fixed glass A 1 in Fig. III.; S corresponds to the fixed glass C 3 in Fig. IV. We will now refer to Fig. III. more definitely, in order to consider the method of fitting up the donkey.

The two front legs O are cut out of one piece of thin wood, and glued to the fixed glass S. The head and body H are cut out of a piece of thin metal, and pivoted to the front legs by the stationary pivot J. It will be noticed that the donkey's back is so cut as to leave a slightly projecting piece R, which serves as a saddle. It goes without saying, of course, that the donkey is so fitted up that the boy will appear to be really sitting on its back.

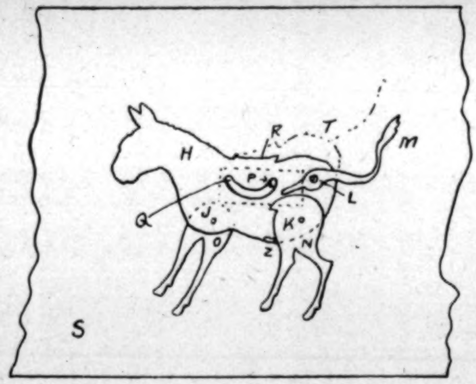


FIG. 3.

In the donkey's body will be noticed a semi-circular slot. Its use will be seen later. The legs N and tail M are pivoted to the body at the points L and K. In this diagram Z is a small projecting part of the donkey's body turned up at right angles to the body, and prevents the legs N from swinging too far forward.

Upon the surface of the centre sliding glass, opposite that to which the boy is attached, is glued a small block bearing a pin P, which works in the semi-circular slot in the donkey's body. The dotted line Q in Fig. III. indicates the position of this block with reference to the donkey. The pin P is shown working in the slot.

Before the action of the slide is verbally explained, it may be as well to briefly state the purpose of each of the diagrams. Fig. I., then, shows the boy with the wheel glued to his body, and thread passing round the wheel. Fig. II. is a sectional diagram of the movable glass, showing more clearly the manner in which the boy is attached to it by means of the small block F. Fig. III. shows all the working parts of the donkey, and the method in which they are fitted up. Fig. IV. represents a sectional view of the three glasses alone, with no parts attached to them. Fig. V. is a sectional diagram of three glasses, showing the manner in which all the working parts are fitted up and their relation to one another. In this diagram it may be necessary to state that W represents the thread on which the boy revolves, and V is one of the blocks at the ends of the fixed glass to which are secured the ends of the thread. Fig. VI. shows the attitude the donkey takes up when the sliding glass is pushed in half way.

Let us now see what takes place when the centre movable glass is pushed in. Reference being made first to Fig. III., it will be seen that the pin P would slide along the semi-circular slot, and, in so far as the donkey is pivoted at J, cause it to throw up its hindquarters a little. The legs N and tail M would move up also.

When the sliding glass is pushed half way, or, in other words, when the pin P has progressed half way along the slot in the donkey's body, the donkey will have thrown up its hind legs to their fullest extent, and will have assumed the attitude shown in Fig. VI. Then, as the sliding glass is pushed further still, the pin P will move right along the slot, and the donkey will descend again.

If the sliding glass be now pulled back, the donkey will repeat its evolutions. But at the same time as the donkey is kicking up its hind legs, the boy upon its back is, by reason of the fact that the sliding glass to which he is indirectly attached is being shifted, caused to partly "turn over" along the stationary thread. It thus appears as though he were being thrown off the donkey's back. When the sliding glass is

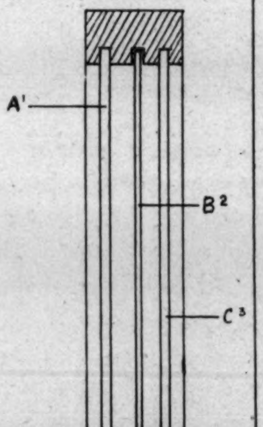


FIG. 4.

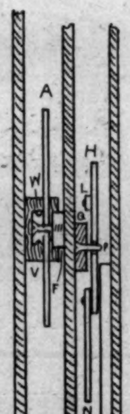


FIG. 5.

pushed right in, he will apparently completely leave the donkey's back—being thrown over its head—and pass out of view before touching the ground.

Before pushing it right in the operator would, of course, push the glass in a little way, and then draw it back again several times; the total effect thus attained being that of a donkey making several attempts to free itself of its rider by rearing up on its front legs, and at last by a supreme effort succeeding in accomplishing its purpose.

If the sliding glass be pulled back sharply, the boy will be reseated upon the beast's back, ready to go through the performance again if necessary. Such a movement, of course, would be unnatural, but it is effected so suddenly that the audience could not detect this. One word in conclusion. To hide the thread from view, it can be made to coincide with the top rail of a fence painted on the fixed glass in black. It will thus escape observation.

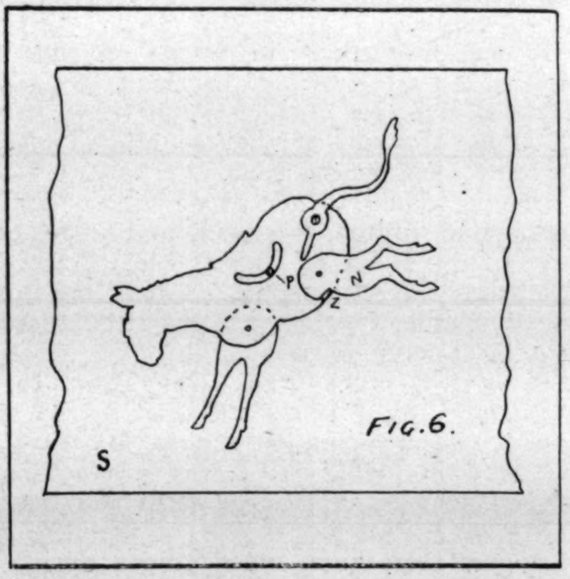


FIG. 6.

SUNDAY EVENING LANTERN LECTURES.—Relative to the use of the lantern on Sunday evenings in Boston (Lincs.), a correspondent in the *Boston Guardian* evidently thinks that education from a worldly point of view should be suspended on Sundays. He says :—"Surely we have enough of the earthly, the political, the passing history of the times . . . etc., during the six days of the week without encroaching on the Seventh." Unfortunately, too many of the church and chapel sermons are of the well-known "Mother Hubbard" order; consequently, people have a tendency to go to lectures where they can acquire definite information.

Carthusian Street to Kimberley Snapshotting.

By **CHARLES R. S. WILSON.**

THERE are so many headings or titles that could be given to this short article that the above seems as fitting as any, considering, as I do, that it was on the doorstep—as it were—of No. 9 that the hand of the courteous editor of the OPTICAL MAGIC LANTERN JOURNAL was the last but one to shake mine in the old country, which happened on May 4th last. Lecturers have to a large extent been dependent upon the doings termed South African, I, among the number, having delivered several eulogies that have been ready stereotyped for me, and illustrating the remarks by aid of my lantern from negatives taken by goodness knows who; and further, during the few years that I have spent in the North of England, only using such photographs and material that are supplied by the mile by Mr. Dearler for my lecturing, it is not surprising that I was delighted, charmed and bewildered upon being appointed a position in the Cape Civil Service, for here was an opportunity of satisfying a desire long hoped for, that of arranging, illustrating, and compiling from negatives *all my own*, and from

material collected

from experience and observation, and that too *all my own*. Here was my chance of having at least one lecture, if not many, thoroughly original. Information was soon forthcoming as to the best and most convenient form of apparatus to carry. So primed with a goodly supply of spools and a collapsible "Kodak," I took the first snapshot of a never-to-be-forgotten trip of the train on departure platform at the Waterloo Station, and labelled "S.S. Dunottar Castle," at 11.50 on the morning of the day above-named. Arriving on board at 2 p.m. in Southampton Waters, luncheon was served, between which and 4.30 the time was fully occupied by friends wishing friends *bon voyage*. At 4.30 a bell was rung warning friends of passengers to leave the ship. Then there was a scurrying and hurrying to and fro. Two or three clicks of my camera button told of securing two or three bits of real life, two or three touching —— Well there, as there was a bit of a lump in my throat, I concluded the spool was full, so slipped down to my berth to change it for another, rubbed away the lump from the throat and something from the eye, and reappeared on deck in time to hear the ringing good-byes and see the waving of handkerchiefs as the vessel was cast off.

During the evening many passengers were on deck watching the last landmark of the Mother Country fade from view. The Needles, the Isle of Wight, and Hurst Castle were left behind, and we were all busy arranging the nick-nacks in our several berths, which, it may be added, were somewhat roomy apartments.

On Sunday evening a religious service was held in the second saloon, conducted by the Rev. J. Stewart, D.D., M.D., of Lovedale, South Africa, the grand old man of

missionary work

in that continent. Other services were held chiefly on Sunday mornings at 10.30, the captain being the chaplain. I would mention that a snapshot taken at one of these shows two of the officers of the "Dunottar Castle" taking the collection. These collections benefit one of the seamen's charitable institutions.

Breakfast was served at 8 a.m., luncheon 1 p.m., dinner at 6 p.m., and at 3.30 each afternoon tea was provided, which was looked forward to by the gentlemen quite as much as by the ladies. Many an interesting picture was captured at these daily assemblies.

Many an afternoon's work or rather pleasure consisted of taking a group of passengers playing quoits, and others going through gymnastic exercises on the horizontal bar, others again listening to the band, which played daily on the starboard side of the second-class deck, others reading, ladies at needlework or sewing of some kind, others gazing at the sea. Excellent chances were also afforded me on Saturday afternoons when the ship's crew were put through their fire-drill.

Many of us went ashore at Madeira whilst the vessel was coaling, and fresh life infused into the series.

The town of Funchal, built on the hillside, is picturesque in appearance as seen from board ship; and here, too, the views afford a knowledge of the life and character of the Portuguese colonists.

Here, my lantern lover, are chances for fresh fields and pastures new in the picture way. We anchored off the island at 1 a.m., shoals of small boats put off from the shore, the occupants boarding the ship to sell Madeira wares. All kinds of fruits, silks, laces, Madeira chair, all sorts of saleable goods were strewn over the deck aft, which appeared more of a public market than part of a royal mailship. Daylight dawned, boys of all ages dived into the sea for coin thrown by passengers, and which they seldom failed to bring up.

Our good ship was black with coal dust, but soon made white again, and now again we are steaming away; now photographing a game of cricket, now the amused spectators. Now we have passed Cape Verde and nothing visible save the boundless ocean. Cape Martin is in sight, and on the afternoon of May 22nd, Robbin Island. Passing through the tropics, snaps are taken of sharks, flying fish, dolphin, octopus, porpoises, and varieties we could not name.

On the afternoon of May 22nd we viewed the scene where went ashore that magnificent vessel the "Tantallon Castle." At 10 p.m. the anchor was dropped, and after viewing the lights of the Metropolis of the African Continent, turned in for the night.

It was interesting to watch on that last evening His Majesty's Royal Mail brought up on deck, ready for transfer to the tender, in all 1,800 bags, a vast number containing missives for our soldiers at the front.

Bidding adieu to our good ship and an ever memorable voyage, I landed, and spent but a day in Cape Town, as I was booked to leave for Kimberley the same night. Two of my travelling companions had been in the siege there, so were most communicative.

It is 648 miles from Cape Town to the Diamond City, this we travelled in the short time of two days and two nights. My travelling chums soon found out I was a snapshottist, advised me as to certain scenes to look out for, and when I state our tickets, or permits, were examined more than ninety times during the journey there was more than

ample time

for carefully photographing such places of now historical interest as the fields of the battles of De Aar, Orange River, Modder River, Belmont, Graspan, Magersfontein, Spyfontein. I also took a picture of Wauchope's grave, the gallant General who fell, I believe, at Magersfontein.

It must not be assumed, however, that these scores of snapshots are all snapshots pure and simple, because that is not so. There is ample opportunity for time exposures of the many pictures herein named, both on sea and land.

I find I am unable, owing to time of mail starting, to say anything of Kimberley, where I am for a time located; but this I will say—from my notes I intend writing a lecture, and this, with copies of my photographs, will be placed upon the London market at no distant date.

On Lantern Lectures.

By T. PERKINS.

NOW that the novelty of kinematographic shows is wearing off we may reasonably expect the ordinary lantern lecture to regain something of its old popularity. It is, of course, wonderful to see motion depicted on the screen, but the flickering and the occasional flashes due to a scratched film seriously detract from the effect of the exhibition. The great expense of the films, and the short time that it takes to show even a long film, makes the exhibition of living pictures beyond the means and the appliances of the majority of lecturers. Moreover, the kinematograph appeals to the eye chiefly, if not entirely. It is a rival to the "effect" slides, shown by means of double and triple lanterns, but does not lend itself very fully to the illustration of lectures, the object of which is rather to instruct than amuse. But, undoubtedly, the new departure has been, and still is, a rival of the illustrated lecture, and it behoves all lecturers to do their best to hold their own in popular esteem. Unfortunately, many lantern lectures are so bad that this method of lecturing has been in danger of being discredited.

In the present article I wish to give a few hints that may tend to the improvement of lectures and the rehabilitation of the form which was once so popular. My advice will consist largely of pointing out things to be avoided. To make a lecture successful three things are necessary—good subject matter, good delivery, and good slides.

It was at one time a common practice, especially in small provincial towns and villages, for those well meaning people who wished to provide a pleasant evening of innocent recreation combined with instruction, to purchase a lantern or hire one for **one or more evenings,** or perhaps for the winter season, and also hire sets of slides, more frequently coloured than not, for each entertainment. These slides were accompanied by a reading descriptive of the slides, marked with an asterisk to show when the signal for a new slide was to be given. Someone who undertook to give the reading, knowing, possibly, nothing of the subject, stood on the platform behind a high desk, on which was placed the reading lamp, and in a dull, perfunctory manner read the printed matter.

Possibly the slides and reading arrived in the town only a few hours before the entertainment was to be given, and the reader had not time even to read through the lecture before entering the room. What reasonable expectation could there be of rendering the lecture a success? If anyone consents to sing in public does he not carefully rehearse his song at home; if he intends to give a reading from some popular author does he not **study the selected passage** thoroughly, learning it almost by heart so that he may do justice to it? Quite as much preparation should be given to the descriptive matter used in conjunction with lantern slides. Do not, therefore, suppose that you can give a good lantern lecture unless you have the subject thoroughly at your fingers ends. Be thoroughly saturated with it, be enthusiastic about it; unless you are, you will not carry your audience with you, and will not be able to retain their attention however good the illustrations may be. And if you know the subject thoroughly, select carefully from things that you know about it those points that are likely to interest those who come to listen. Do not give a mass of dry statistics or dates, which may be useful enough in a treatise that can be studied at leisure, but which no one can remember from hearing them once.

Suppose your subject is topographical, then take care that you have yourself visited the places described. If you have seen the places, and have any power of observation, you will probably have noticed some little incidents that will make the lecture full of life and interest to your audience. If any events in history have taken place in any spot shown on a picture on the screen, if the spot has been chosen by any well-known author as the scene of some incident in his novel or poem, read carefully what the most graphic historian has written about the real event, or learn almost by heart what the novelist or poet has said about the incident, and reproduce or quote, word for word, the passage. If you cannot trust your memory, and must perforce read it, have it carefully looked out beforehand, do not fumble over the pages of the book seeking for it in the dim light of the lecture room. But quote naturally and do not drag in your quotation in a set and formal manner.

An occasional bit of humour enlivens a lecture, but be quite sure it is good. To make a poor and feeble joke, or a far-fetched one that your audience will not understand, is one of the worst things a lecturer can do. A joke that falls flat is most discouraging to the lecturer, and most irritating to the audience. Avoid anything coarse or vulgar. The professional lecturer, who, though he may know his subject well, has not always received a liberal education, sometimes offends in this way, and disgusts those who hear him.

Speak in a clear voice. Do not shout even if the room be a large one. Avoid the tricks of stage enunciation, be natural. Do not be monotonous either in tone of voice or phraseology. If your voice does not enable you to make yourself heard, do not attempt to lecture in a large room. Those seated at the back get impatient and restless if they cannot easily follow what is said, and their shuffling about will make matters worse.

To be a good public speaker is not an easy thing. To some, perhaps, it comes almost by nature, others require much study. Never lose an opportunity of hearing a

good public speaker

or lecturer, so that you may pick up some hints for your own guidance. Cultivate a simple and clear way of saying what you want to say. Avoid long and learned words, be concise.

Do not weary the audience by being too long—an hour is generally sufficient for a lecture. If the subject cannot be well treated in this time, give, if you can, two or more lectures of moderate length rather than a single long one.

Read the writings of the great masters of style, so as to improve your own. Write out and learn by heart the peroration, in order that you may not bring the lecture to a feeble and inconclusive ending.

When lecturing in a strange place make a few graceful remarks about the organisers of the lecture, and if the assistant who has worked the lantern has done his part well, do not forget to give him such credit as he is fairly entitled to, for much of the success of the lecture depends on the way that he manages the lantern and slides.

Always be in the lecture room some time before the hour fixed for the beginning of the lecture, that you may talk over the matter with the lanternist, and tell him what is required of him. This will prevent hitches during the exhibition. If the operator and lecturer understand one another there will be little need for signalling by bell or flash lamp when the next slide is to be shown.

See beforehand that all the slides are arranged in order and are properly spotted, then there is less chance of the insertion of a slide out of place or upside down. If a mistake is made by the operator, try, if possible, so to alter the words you intended to say, that the audience may not notice that any mistake has been made.

If the advice already given is attended to, then, as far as the lecture itself is concerned, some considerable amount of success may be hoped for. But, as I said in the earlier part of this article, not only must the subject matter and its mode of treatment be satisfactory, but the slides must also be good. It is best always to use slides of one's own make, though occasionally you may borrow one from a friend or buy one if by chance the negative you have taken to illustrate some special point is of such a character that a good slide cannot be made from it.

Be careful, first, that all of your slides are good; if any are found to be unsatisfactory at any lecture, see if you cannot improve on them before giving the same lecture again. Be careful that the lantern is a good one—much depends on this. I was once lecturing to an important society; my slides were carefully prepared from sharp negatives; the organisers of the meeting had undertaken to provide a good lantern, but, greatly to my disgust, nothing on the screen outside a circle, whose diameter was about 3 or 4 feet, was in focus, as the projection lens was a cheap French portrait lens with a very round field.

A mistake often made by lanternists is an attempt to get an enormously large disc, far greater than can be properly illuminated by the light used. Far better is it to have a small brightly-illuminated picture than a large area dimly lit, so that it is difficult to make out the details of the subject. The projection lens should be of such a focal length that the lantern can be placed at the back of the room, not in the centre, and a

moderate-sized disc,

generally not exceeding some 10 or 12 feet in diameter, well illuminated; for many rooms an 8 feet disc is preferable. See that the screen is absolutely vertical and that the lantern is raised well above the floor.

The method often adopted of tilting the lantern upwards and inclining the screen forwards, so that it may be at right angles to the axis of the lens, is not satisfactory. The picture may look all right to those who are seated exactly between the lantern and the centre of the sheet, but to those seated near the sides of the room the pictures will appear distorted. Of course, in some instances the fittings of the room do not allow of the ideally best arrangements being made, but now that so many lectures are illustrated by lantern views, every lecture hall should be fitted with up-to-date arrangements for the exhibition of lantern slides.

Wet Collodion Lantern Slide Making.—No. II.

By ALFRED H. SAUNDERS.

OUR next process will be the preparation of the silver bath, and for this purpose, measure glasses, bottles, dipping baths, and dippers must be scrupulously clean, and all alkaline substances kept at a distance. We take one of our 40 oz. bottles, and into this place :—

Distilled water	36 ozs.
Silver, Nitrate	3 ozs.
Potassium, Iodide	2 grs.

The iodide should be added when the silver nitrate is dissolved. It will fall through as a yellow precipitate. Well shake the solution and filter into another 40 oz. bottle, label both bottles "silver bath" and keep them for this purpose only. We have now a bath that is perfectly neutral, and if all our chemicals were absolutely pure, one that would give finest results; but as the least impurity spoils the bath, and renders the task difficult to keep neutralising, it is best to avoid all this trouble by using an acid bath, which is accomplished by adding pure nitric acid drop by drop until blue litmus paper takes a decidedly red tinge. Pour into the dipping baths 18 oz. each, when they will be ready for use.

It is necessary that the baths should be placed in a light-tight box, and the amateur carpenter comes in handy again. The dimensions of the box should be 10 by 9 by 12 inches deep, a piece of wood put inside bevelled at edges so that the baths may have a slant, and a hinged lid to keep out dust. Baths kept in this box keep in good condition, allowing the ether to evaporate, and with occasional filtering require very little more attention. My own baths have now been in use for three months, and are still good. If a shelf 9 inches square is fixed on one end with iron brackets 1 inch lower than the top, it will be found useful as a stand for the lamp. I find one of the lighthouse pattern very useful, as it has two glasses, ruby and yellow; so serving for both wet and dry plate developing.

In my own practice I use the following developer:—

Protosulphate of iron	1 oz.
Glacial acetic acid	1 oz.
Rectified spirit of wine	2 ozs.
Distilled water	16 ozs.

For use add equal quantities of water. This developer is simple, easily prepared, and answers every purpose.

For those who like to experiment, the following gives rich results :—

No. 1.

Protosulphate of iron	1 oz.
Sulphate of copper	1 drachm
Distilled water	10 ozs.

No. 2.

Nitrate of baryta	1 drachm
Glacial acetic acid	½ oz.
Rectified spirit of wine	1 oz.
Distilled water..	10 ozs.

Dissolve Nos. 1 and 2 in separate bottles; then mix and filter, when it is ready for use.

I will now presume camera is fixed up with negative ready for reduction, properly focused, dark-room alright with a steady stream of water flowing from tap, falling on an inverted jam jar through an anti-splash nozzle; a piece of rubber tubing attached to tap will answer the same purpose. Collodion, in the proportion 3 to 1 of the iodizer, ready in the cometless pouring bottle.

All being arranged satisfactorily, we will make our first failure by trying to collodionise a plate. Take an albumenised plate by the finger and thumb of left hand, hold collodion bottle in right, remove the cover with the three unused fingers of left hand, holding plate horizontally, pour into the centre a pool of collodion as large as a half-crown, then flow to right hand corner away from you, run along edge to left hand corner down to left hand bottom corner, avoiding the thumb, then to right hand bottom corner, pouring off residue into the bottle of collodion again, at the same time keeping the plate rocking to avoid streaks and markings. Having now accomplished this to our satisfaction, cap the bottle, turn the plate, after it has set somewhat, upside down, so that the thick collodion may be at top of plate, place on dipper and lower into bath with one even sweep, then repeat the operation for the second bath. While these are sensitising we will prepare dark slide by placing round the bottom of the carrier where the plate rests a piece of blotting paper to absorb the drainings off the plate, keeping it clear from markings.

By this time the first plate will be fully sensitised, which may be known by the fact that all greasiness has disappeared; if there is still a greasy appearance, immerse again in the bath and gently move it to and fro, taking care the plate does not fall off the dipper during this operation. When evenly coated take out of bath and drain bottom edge on a piece of blotting paper, then place in dark slide and make the exposure, which will vary according to light, from ½ to 3 minutes. *Experimenta docet.*

After exposure flow developer over plate (same as collodionising), taking care to well cover the whole of the plate, gently rock till all detail appears, then well rinse under tap and fix in—

Cyanide of potassium ..	1½-in. length of stick
Water	5 ozs.

It is possible a slight veiling is observed on slide due to developer, which may be removed by a pledget of wool, wiping under the stream of water, at the same time taking care not to scratch the film by too hard a pressure. We have now got the result of our first effort. If it is a failure, try again, practice makes perfect. Clean off the film from failures at once and use as cover glasses for slides, or they may be put into pickle and used over again, but as impurities may be transferred to bath by this method, failures are best used for cover glasses.

(To be continued.)

* * *

Some Principles of Cinematographic Machines.—No. II.

By E. D.

IN following out some of the methods of obtaining intermittent movements in cinematographic machines, the following will be interesting to many of the readers of the OPTICAL MAGIC LANTERN JOURNAL.

An intermittent motion of a spur gear has been obtained by means of an arrangement, which is clearly shown in Fig. V., in which A is the driving-wheel and B the driven wheel, or wheel receiving the intermittent motion. A pin marked C on the driving-wheel A meshes with a dog or spur D on the driven wheel, and thus, as the wheel A is rotated, bring the teeth on the wheels A and B into engagement. During part of the revolution of the wheel A, no motion is imparted to the wheel B, thus forming the period of rest of the said wheel.

In the method above described, it will be at once observed that a distinct shock is imparted to the wheel B when the pin C strikes the dog D. To overcome this objectionable feature of the mechanism, an arrangement has been cleverly devised, which is clearly shown in Fig. VI. In this case it will be seen that the pin C and dog D has been developed so as to give a rolling contact by their special shape. The projecting plate E will be seen to make its first engagement with the dog F at a point near the centre of the driving-wheel A, and continues along its face until the teeth on the two wheels A and B quietly and without shock come into engagement. As in the previous arrangement, no motion is given to the wheel B; whilst the non-toothed portion of the concave and convex portion of the peripheries of the two wheels are in engagement.

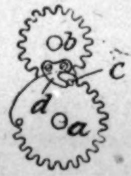


Fig: 5.

An ingenious and simple, though distinctly different arrangement has been devised, commonly known as the "drunken worm," and has frequently been used to obtain an intermittent motion. One form of this gearing is shown in Fig. VII. Here, again, A is the constantly rotating member, which by means of the thread G has a portion of the thread in a plane perpendicular to the axis of the wheel B. The wheel B is thus held stationary by the tooth H, whilst the straight part of the "drunken worm" is in engagement therewith.

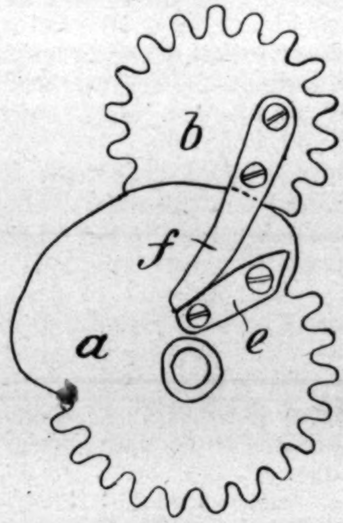


Fig: 6.

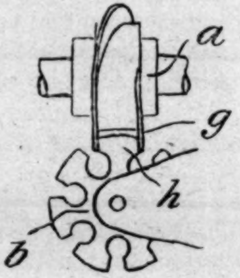


Fig: 7.

* * *

The Busker's Story.

By T. B.

ABOUT the beginning of last May the writer, being a bit run down, decided to relinquish business for a time and embark on a random walking tour, *i.e.*, not mapped out, the roads and lanes to be chosen as they were approached—in fact, making for nowhere in particular. In a small remote town one evening a respectably dressed man about forty years of age was observed busking. He had an excellent talking machine on a very small but firm stand, which was surrounded by about two hundred people, who responded liberally when a collection was made. Next morning the busker was encountered as he was leaving the town, an acquaintance was struck up which ran into four days, at the end of which time business and home had to be considered and a very pleasant companionship was brought to a close. This man, respectable in every sense of the word, simply revelled in the life he was leading, which had brought him the two needful things on earth—health and money. Bit by bit he unfolded how he came to embark in the business which is here set forth. Perhaps the busking business may not be to some people's liking—too common and low—but if one has a desire to get on in this world, pride must be put in one's pocket and kept there; it won't keep or help one, but will bring the unfortunate possessor on a level with the gutter, and once there, well, it's ten to one on staying there. Now for the narrative.

About nine months ago, owing to ill health, I was slowly but surely getting very hard up. The doctor suggested that a change of air and scene would benefit me considerably. I was of the same opinion, but my

financial position

would not warrant the change I stood so much in need of. On reference to my pocket I found I was worth exactly six shillings and sevenpence; something would have to be done. With the greatest frugality this amount would barely see three days through.

I put on my thinking cap and a happy thought struck me. A friend of mine, a lanternist, made a decent living the winter through by giving entertainments in village schoolrooms; why should not I by means of the talking machine? I reasoned with myself if a lanternist can get a living, surely I can with this comparatively unknown instrument, and it would also bring what I desired most—health.

I wrote to a firm whose advertisement I had seen in a London daily newspaper, and by return of post I received a catalogue and a small pamphlet setting forth the excellence of the machine both as an entertainer and money-maker.

All this read very nice, but where was the money coming from to purchase the instrument? I found on calculation that about ten pounds would be required. I have a horror of borrowing, therefore all thought of help from friends was scattered to the winds. I had in my possession several valuable trinkets, which after due consideration I determined to locate with a respected relative in exchange for filthy lucre.

After arranging this little business I remitted to the machine agent the sum of ten pounds one shilling and sixpence, and three days later the machine and records came to hand in faultless condition.

I had placed an order for one thousand bills in the hands of our local printer, which ran something after the following:—

SCHOOLROOM.

ADMISSION:—6d. and 3d.; SCHOOL CHILDREN, 2d.
Doors open at 7. Commence at 7.30.

— A VERY SUPERIOR AND REFINED —
ENTERTAINMENT
will be given by the

WONDERFUL TALKING MACHINE,
Admitted to be the Most Marvellous Invention of Modern Times.

The Programme will include Selections from the Coldstream Guards Band, Dialogues, Refined Songs, and Quartettes. Plays the Piano, Bagpipes, Banjo, Concertina, and Clarionette.

During the Evening a very excellent rendering of the
CHIMES OF BOW BELLS CHURCH,
CHEAPSIDE, LONDON,
will be given. Also
A CHURCH SCENE,
The Choir Singing "Hark, the Herald Angels Sing," accompanied by Bells and Organ.

One lovely morning about the middle of September I sallied forth gay as a lark, and one hour later I found myself in the heart of a big city, my worldly possessions being one large portmanteau containing my clothes, one talking machine, thirty-six records, one thousand bills, and £4 1s. 2½d. in money. I had decided to make this city my centre and work the outlying villages, therefore I set to work to secure lodgings, which was a very easy matter, seeing that I was respectably dressed and had the needful.

Next morning I was up betimes and caught an early train which landed me at a small village, about six miles from the city, soon after nine o'clock. I enquired for the school, which after some difficulty I found situated down a narrow lane about a quarter of a mile from the village. By the hum of voices I knew that the morning lessons were in full swing. I knocked at the door and a girl about twelve years of age appeared and asked my business. I politely asked if I might give an exhibition of the talking machine in the schoolroom one evening, at the same time handing her one of my bills. She glanced at it and without making any comment disappeared, and shortly afterwards the schoolmistress came on the scene. She was afraid permission could not be had. The school was the property of Sir ———, who had a decided objection to anyone outside the parish using it, but as such an exhibition had not been given in the schoolroom he might possibly give way. She would make it her business after school hours to "bike" over to the hall (six miles distant), interview the baronet, and write me his decision. I thanked this good woman for her kindness, and the following day a note reached me stating that as I was unknown to the owner permission could not be given.

The next village I visited there was no schoolroom, but there was an excellent reading-room, the property of the vicar, which was used for entertainments. After stating my business to the reverend gentleman he refused me permission, his parishioners were poor and had no money to waste on such trash.

As I looked at this well-fed specimen of our Established Church it occurred to me that the least said to such a man the better, so I walked away, merely wishing him "Good-day." But I had the satisfaction of knowing that all State parsons were not like him.

I journeyed on to another village and interviewed the schoolmistress who readily gave me permission to exhibit the following evening. This infused new life into me, and I made for the nearest inn with a dash in order to obtain a little refreshment and head the bills previous to distribution. I had completed about sixty bills when the following note was handed to me by a small boy.

> Sir,—Since giving you leave to use the schoolroom for your entertainment, I have found that it has been said that the school must not be used for such entertainments since the parish room has been built.
>
> If you can obtain permission from Mr. Bond at the Manor House, of course it will be all right.
>
> If not, you can see the vicar to-morrow afternoon about the parish room.
>
> SCHOOLMISTRESS.

By this time the rain, which had been threatening for some time, came down in sheets, so canvassing for that day had to be abandoned.

When I arose the following morning it was still raining, so I hit on a different plan. I visited the reference room of the public library, consulted the local directory, and dotted down the names of the schools in the city; it had occurred to me that I might get several for afternoon shows at one penny admission. My efforts were not crowned with success, the schoolmasters whom I interviewed gave it as their opinion that it would not pay, the children showed but little interest for talking machines. I also learnt that a man had some months previous exhibited a talking machine at several of the schools, and it was not a success in any way. Had I been a lanternist, conjuror, or ventriloquist, permission would have been readily given, the children evinced a relish for these entertainments, and liberally patronised them. I was returning lodgingward, when I came across a school which was not on my list; I had evidently overlooked it when consulting the directory. I obtained permission from the schoolmaster, but he held out but little hope of remuneration. One thing in my favour was that no one had yet exhibited there. I arranged to be at the school the following afternoon immediately after school hours. As this was my first public appearance it was with a curious feeling that I presented myself at the school punctually at four. I noticed with dismay the number of children who departed without bestowing a look upon the case which contained my bread winner, and I was beginning to think there would be no show, when the schoolmaster came forward and told me that 149 scholars had decided to remain. I very soon **had the machine ready** for exhibition, and I gave an hour's show to a very appreciative audience, who manifested their approval by repeated handclaps.

The next three days I canvassed for village schools and succeeded in getting a large number; but my receipts were poor. People simply laughed at the machine; in fact, looked upon it as a toy. I found that several persons and the local gentry possessed them, therefore they were better known than I anticipated.

"Had you been a lanternist you would have done well," was the repeated cry. One village in particular I visited—not a thousand miles from Maldon, in Essex—the parson told me that for four winters in succession he had promised his parishioners a magic lantern exhibition, thinking that someone would come along, but unfortunately no one had passed that way.

Travelling about the country was beginning to play ducks and drakes with my capital, and one fine morning I woke up to find myself possessed of nineteen shillings and twopence. I ruminated awhile, and ultimately came to the conclusion that I had better sell the talking machine and purchase a magic lantern exhibition. So I made my way into the nearest town and tried to sell it.

I very soon found that it was no easy matter to sell such an article; the majority of those to whom I submitted it evidently imagined I had come by it in a manner far from honest, but I am pleased to say I bottled up my wrath. It was evident I could not sell it, so I paid a visit to "uncle," who simply refused to look at it, let alone lend money on it, for the simple reason that I could not show the receipt, which unfortunately I had lost. But he startled me when he roared out, if I did not clear out of his shop he would send for the police and have me detained. I hastily left the shop and town, not dispirited, but disgusted at the want of thought displayed by man. It had been suggested to me by several people whom I had encountered in my wanderings that I should make more by busking, so I decided to try this as a last resource.

Next morning I jumped into Lincolnshire and purchased at a furniture shop in a large town a small strong deal table. My first stand was in the Market Place, and as it happened to be market day, a large number of people had gathered by the time I was ready to commence. When six records had been run off I made a collection, which resulted in four shillings and fourpence halfpenny. I ran off six more records and made another collection—result, two shillings and threepence. I then shifted to another part of the town and gave another exhibition, with three shillings and twopence as the result. My receipts that day amounted to £1 11s. 4d.

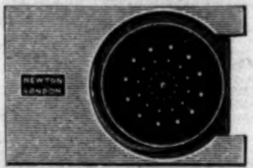
Like the "Ugly Duckling," I had found the right thing at last, and it is almost needless to state that I have been busking ever since and do not intend giving it up.

NEW APPARATUS.

SCIENTIFIC, YET AMUSING SLIDES.

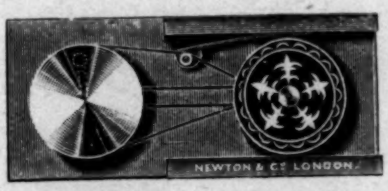
Amongst the numerous slides of a scientific class brought out by Messrs. Newton & Co., of Fleet Street, E.C., we observe the following, which are capable of affording valuable knowledge, whilst at the same time giving a certain amount of amusement.

Eidotrope.—This consists of a double revolving rackwork frame in which is placed two perforated discs, which, revolved in opposite directions, give a great variety of patterns.

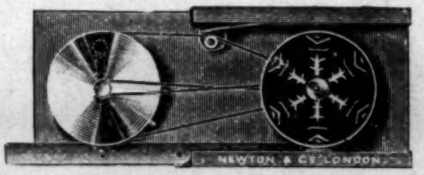


Kaleidrope.—With this slide, instead of the disc being slowly revolved, the perforated disc is spun round quickly by means of the finger. Special mechanism is provided whereby not only is a rotating motion imparted, but also a vibrating one, which gives the effect of several circles interlacing one another; this is caused by persistence of vision.

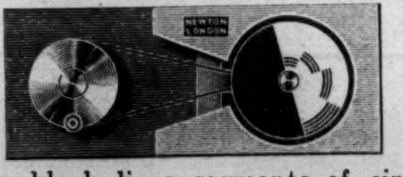
Sound Wave Disc Slide.—The invention of Mr. F. J. Cheshire shows the mode of vibration of particles in stationary wave systems, such as those occurring in organ pipes, etc.



Anorthoscope.—By means of a slotted revolving disc, five symmetrical images are produced from one of a distorted formation.



Gorham's Top Slide.—This particularly interesting slide was invented by Mr. John Gorham about forty-six years ago, and is somewhat after the style of the foregoing slide, but owing to the manner in which the design is coloured, the colouring of each portion of the design becomes changed when the discs are rotated.



Benham's Top Slide.—Our readers may remember this "top" which was sold some years ago in the form of a white disc of cardboard upon which was printed in black lines segments of circles of different radius. When rotated, these black lines assumed certain colours according to the radius. In the form of a lantern slide this effect is very excellent.

Collision Ball Slide.—A ball when dropped into this slide presents upon the screen the effect of a ball being rolled up hill, going down the other side and eventually settling on the summit. By dropping other balls into the slot, the effect of collisions is seen, and it is interesting to note that when a new ball collides with those already in position, that only that one furthest from the collision point is disturbed to any great extent.

NEWTON & Cº LONDON.

Numerous new sets of slides have lately been introduced by this firm, including the voyage of the "Ophir," which comprises fifty slides.

IMPERIAL ROTOGRAPH.

Mr. W. C. Hughes has introduced some new features into his Imperial Rotograph which is a combined lantern and cinematograph, whereby 1,000 feet of film can be introduced bodily, the film being contained on a fireproof spool.

SANDERS & CROWHURST.

From the new lists issued by Messrs. Sanders & Crowhurst, of 71, Shaftesbury Avenue, it is evident that they intend making a special feature in the lantern line in connection with their optical business.

PATENT INTELLIGENCE.

Compiled expressly for this Journal by Messrs. W. P. Thompson & Co., Chartered Patent Agents, 322, High Holborn, London, W.C., and at Liverpool and Birmingham, to whom all enquiries should be addressed.

No. Recent Patent Applications.

20388. 11th October, 1901. Herbert John Haddon, London. Improvements in exposing apparatus, more particularly for cinematographic photographs.

20814. 17th October, 1901. Charles Urban and Carl August Teske. Improvements in and relating to apparatus for projecting living pictures.

21238. 23rd October, 1901. Abram Kershaw. Improvements in optical lanterns.

22042. 1st November, 1901. George Frederic Hatton. Improvements in or relating to cinematographic apparatus.

22390. 6th November, 1901. William Norman Lascelles Davidson. Improvements in cinematographic apparatus for production of pictures in natural colours.

Copies of any of these specifications may be obtained of Messrs. W. P. Thompson & Co., Chartered Patent Agents, 322, High Holborn, London, W.C., and at Liverpool and Birmingham, price, post free, 1s. in stamps.

Specifications Published.

23339 of 1900. Hatton. Apparatus for taking and viewing or exhibiting cinematographic pictures.

17126 of 1900. Hofer and Hofer. Transparencies.

Notes and Queries.

W. H. Lang.—(1) Yes, the Pendant saturator will be found excellent in every way. (2) We hardly understand your second question. If you mean does a saturator give a better light than an ordinary blow-through jet, we answer yes. On the other hand, if your choice is to run temporary tubing any great distance, in order to supply house gas to an injector jet, or to use a saturator instead, perhaps the latter would be better; but if you are to travel extensively in out-of-the-way places, it would be advisable to provide yourself with both—a jet of the kind mentioned and also a saturator.

Robt. Scott.—We are sorry we cannot accede to your wishes. It would be absurd to publish your letter of particulars simply because you disagree with the seller.

J. M. Wright.—We have repeatedly given the advice to pour no oil into the end of gas cylinders for the purpose of lubricating the valve. Leave it alone, or you may have your head blown off.

Limes.—When you are told that the lime cylinders have been treated chemically in order to prolong their life, better simply listen to it and say nothing. Lime makers have a way of saying their particular make is superior to all others. Certainly there is no fortune in limes, even if one particular maker controlled the entire supply of Great Britain at current prices. To introduce the making of lime cylinders as a side to another department may be all very well, but we would strongly dissuade you from commencing business as a lime turner to the trade. Some years ago a correspondent asked us our opinion in a similar matter, and we gave him much the same answer. He, however, thought he knew better, and put £250 into a similar business. On calling at our office one day he told us our opinion was worth nothing, and that in spite of our reply he had gone into the business, and thought it would turn out well. Less than a year after he again called, and said he wished he had taken our advice, for he was now out of the business, and had completely lost his £250. However, you do as you like, only we would like to hear the result in twelve months' time. One reader sent us a letter he had received from a maker of limes, in which he stated that remarks of ours respecting limes were absurd. This, however, was said as it were behind our back. We have the letter in our possession, and happen to know that the writer of it thought our remarks too true upon the subject. Of course, it is necessary that we should have lime cylinder makers; but when you ask our opinion, that is no reason why we should give you such advice as would tend to losing your money.

T. P.—See article in the present issue.

A. Vivian.—Particulars *re* the use of electric light in the optical lantern will be found in the Journal for January and February last.

J. L. Huskinson.—Thanks for your letter. In our next.

Compliments of the Season

TO ALL.